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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,856	07/15/2003	Stefan Dessloch	SVL920020048US1	9144

24852	7590	08/24/2006

INTERNATIONAL BUSINESS MACHINES CORP
IP LAW
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EXAMINER
COLAN, GIOVANNA B

ART UNIT	PAPER NUMBER
2162	

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 May 2006*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This action is issued in response to the Amendment filed on 05/15/2006.

2.   Claims 1, 13 – 15, 27 – 29, and 41 – 42 were amended. No claims were

canceled. Claims 43 – 45 were added.

3.   Claims 1, 13 – 15, 27 – 29, and 41 – 45 are pending in this application.

4.   Applicant's arguments with respect to claims 14, 28, and 42 have been

considered but are moot in view of the new ground(s) of rejection.

Specification

5.   The specification is objected to as failing to provide proper antecedent basis for

the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction

of the following is required: The "generic subclass" of claims 14 and 42 lacks of

antecedent basis in the specification.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by
another filed in the United States before the invention by the applicant for patent or (2) a patent
granted on an application for patent by another filed in the United States before the invention by the
applicant for patent, except that an international application filed under the treaty defined in section
351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7.   Claim 1 – 3, 5 – 10, 14 – 17, 19 – 24, 28 – 31, 33 – 38, and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Witkowski et al. (hereinafter Witkowski) (US Patent No. 6,775,662 B1).

Regarding Claims 1 and 29, Witkowski discloses an article of manufacture comprising a computer program carrier readable by a computer and embodying one or more instructions executable by the computer for providing a structure for representing a query statement having an atomic query element (Fig. 5, item 521, Col. 11, lines 2 – 5, Witkowski) and a combined query element related by a combined operator (Fig. 5, item 513, Col. 11, lines 7 – 9, Witkowski), the computer program comprising:

program instructions defining a superclass (Fig. 5, item 511, Witkowski) representing an operation on a combination of the combined operator, the query element, and the combined query element (referenced by root node 511, also see - Col 10, lines 33 – 35, Witkowski[1]), the superclass further comprising:

program instructions for defining a first subclass representing the atomic query element (Fig. 5, item 521, Col. 11, lines 2 – 5, Witkowski);

program instructions for defining a second subclass representing the combined query element (Fig. 5, item 513, Col. 11, lines 7 – 9, Witkowski) and including a left subelement and a right subelement, wherein each of the left (Fig. 5, item 524, Col. 11,

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[1] Wherein Wherein "(a>3 AND (b<1 OR b=0) AND (gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0))" (referenced by root node 511, also see - Col 10, lines 33 – 35, Witkowski) corresponds to the query statement claimed; wherein the "AND" corresponds to the combined operator claimed; wherein "a>3"

lines 1 – 5, Witkowski[2]) and right subelements can be any subclass of the superclass

(Fig. 5, item 514, Col. 11, lines 7 – 9, Witkowski[3]);

program instructions for defining a relationship indicator representing a

relationship between the first subclass and the second subclass as defined by the

combined operator (Fig. 5, item 511, AND, Col. 11, lines 7 – 9, Witkowski); and

program instructions for storing the superclass, the first subclass, the second

subclass on a computer-readable medium (Col. 12, lines 32 – 36, Witkowski).

Regarding Claims 2 and 30, Witkowski discloses an article of manufacture,

wherein at least one class of the superclass further comprises zero or more types for

the query element (Col. 10, lines 64 – 66, Witkowski[4]) represented by that class and a

subclass defined for each identified type (Fig. 5, item 513, and 514, Col. 11, lines 1 – 9,

Witkowski[5]).

Regarding Claims 3 and 31, Witkowski discloses an article of manufacture,

wherein at least one subclass further comprises a superclass (Fig. 5, item 513, Col. 11,

lines 7 – 9, Witkowski).

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corresponds to the query element claimed; and wherein "**gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)**" corresponds to the combined query element claimed.
[2] Wherein "**gc = 1**" corresponds to the left subelement claimed.
[3] Wherein "**gc = 1 AND d>0**" corresponds to the right subelement claimed.
[4] Witkowski discloses a selection procedure to determine if the query contains conjunctive or disjunctive predicates (Fig. 3, Col. 8, lines 11 – 19, Witkowski). Conjunctive or disjunctive predicates/expressions would correspond to the type of query elements.
[5] In Fig. 5, item 513 would correspond to a class of the superclass, and item 514 would correspond to a subclass.

Regarding Claims 5 and 33, Witkowski discloses an article of manufacture, wherein the superclass represents a value expression (Fig. 5, item 511, Col. 11, lines 11 – 13, Witkowski[6]), the first subclass represents an atomic value expression (Fig. 5, item 521, Col. 10 and 11, lines 60 – 61 and 2 – 5; respectively, Witkowski) and the second subclass comprises a combined value expression (Fig. 5, item 513, Col. 11, lines 7 – 9, Witkowski[7]).

Regarding Claims 6 and 34, Witkowski discloses an article of manufacture, wherein the superclass represents a search condition (Fig. 5, item 511, Col. 11, lines 11 – 13, Witkowski[8]), the first subclass represents an atomic search condition (Fig. 5, item 521, Col. 10 and 11, lines 60 – 61 and 2 – 5; respectively, Witkowski), and the second subclass represents a combined search condition (Fig. 5, item 513, Col. 11, lines 7 – 9, Witkowski[9]).

Regarding Claims 7 and 35, Witkowski discloses an article of manufacture, wherein the superclass represents a group-by query element (Col. 6, lines 38 – 40, Witkowski), the first subclass represents a group (Col. 11, lines 16 – 17, Witkowski), and the second subclass represents a grouping set (Col.11, lines 34 – 37, Witkowski).

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[6] Witkowski discloses root node 511 that references the value expression of : **"where (a>3 AND (b<1 OR b=0) AND (gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0))"** (Col 10, lines 33 – 35, Witkowski).
[7] Witkowski (Fig. 5) discloses a parent node (item 513), which corresponds to the second subclass, and nchild nodes (items 524, 514, 515, 525, 526, 527, and 528), which correspond to a combined value expression (Col. 12, lines 21 – 23, **"gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"**, Witkowski).
[8] Witkowski discloses root node 511 that references the search condition: **"where (a>3 AND (b<1 OR b=0) AND (gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0))"** (Col 10, lines 33 – 35, Witkowski).

Regarding Claims 8 and 36, Witkowski discloses an article of manufacture,

wherein the second subclass further comprises a nested query language element (Fig.

5, item 514, 525, and 526, Col. 10, lines 33 – 35, element 514 comprising: **"(gc=0 AND**

d>0)" is nested over element 513 comprising: **"(gc=1 OR (gc=0 AND d>0) OR (c=0**

and d<0)", Witkowski).

Regarding Claims 9 and 37, Witkowski discloses an article of manufacture,

wherein the second subclass represents an iterative query language element (Col. 11,

lines 26 – 27, Witkowski[10]).

Regarding Claims 10 and 38, Witkowski discloses an article of manufacture,

further comprising program instructions for receiving a query statement (Fig. 1, item

110, Col. 6, lines 29 – 32, Witkowski) having an atomic query element (Col. 10, line 34,

a>3, Witkowski) and a combined query element associated by a combined operator

(Col. 10, line 34, **gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)**, Witkowski); and

program instructions for populating the structure with the received query statement (Fig.

4, items 410, 420, and 430, and 440, Col. 10, lines 57 – 58, Witkowski).

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[9] Witkowski (Fig. 5) discloses a parent node (item 513), which corresponds to the second subclass, and
child nodes (items 524, 514, 515, 525, 526, 527, and 528), which correspond to a combined search
condition (Col. 12, lines 21 – 23, **"gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"**, Witkowski).
[10] Witkowski discloses a method for recursively creating parent nodes (item 513 in Fig. 5 is a parent node
and also corresponds to the second subclass in the superclass). This method, utilizing recursion, involves
repetition, recurrence, and/or iteration. In addition, Witkowski also discloses a method for processing
conjunctions, which would later be used in the predicate query tree of Fig. 5, including an iterative loop
(Col. 8, lines 37 – 38).

Regarding Claim 15, Witkowski discloses a method for hierarchically

representing a query statement having an atomic query element (Fig. 5, item 521, Col.

11, lines 2 – 5, Witkowski) and a combined query element related by a combined

operator (Fig. 5, item 513, Col. 11, lines 7 – 9, Witkowski) comprising the steps of:

defining a superclass representing the query element (Fig. 5, item 511,

Witkowski), representing the query statement and including an operation on a

combination of the combined operator, the query element, and the combined query

element (referenced by root node 511, also see - Col 10, lines 33 – 35, Witkowski[11]);

defining a first subclass of the superclass representing the atomic query element

(Fig. 5, item 521, Col. 11, lines 2 – 5, Witkowski);

defining a second subclass of the superclass representing the combined query

element (Fig. 5, item 513, Col. 11, lines 7 – 9, Witkowski) and including a left

subelement and a right subelement, wherein each of the left (Fig. 5, item 524, lines 1 –

5, Witkowski[12]) and right subelements comprises any class of the superclass (Fig. 5,

item 514, Col. 11, lines 7 – 9, Witkowski[13]);

indicating a relationship between the first subclass and the second subclass

defined by the combined operator (Fig. 5, item 511, AND, Col. 11, lines 7 – 9,

Witkowski); and

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[11] Wherein Wherein "(a>3 AND (b<1 OR b=0) AND (gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0))"
(referenced by root node 511, also see - Col 10, lines 33 – 35, Witkowski) corresponds to the query
statement claimed; wherein the "AND" corresponds to the combined operator claimed; wherein "a>3"
corresponds to the query element claimed; and wherein "gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"
corresponds to the combined query element claimed.
[12] Wherein "gc = 1" corresponds to the left subelement claimed.

storing the superclass, the first subclass, the second subclass on a computer-

readable medium (Col. 12, lines 32 – 36, Witkowski).

Regarding Claim 16, Witkowski discloses a method, further comprising the step

of: for at least one class of the superclass, identifying zero or more types for the query

element (Col. 10, lines 64 – 66, Witkowski[14]) represented by that class and defining a

subclass for each identified type (Fig. 5, item 513, and 514, Col. 11, lines 1 – 9,

Witkowski[15]).

Regarding Claim 17, Witkowski discloses a method, wherein at least one

subclass further comprises a superclass (Fig. 5, item 513, Col. 11, lines 7 – 9,

Witkowski).

Regarding Claim 19, Witkowski discloses a method, wherein the superclass

represents a value expression (Fig. 5, item 511, Col. 11, lines 11 – 13, Witkowski[16]), the

first class represents an atomic value expression (Fig. 5, item 521, Col. 10 and 11, lines

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[13] Wherein **"gc = 1 AND d>0"** corresponds to the right subelement claimed.

[14] Witkowski discloses a selection procedure to determine if the query contains conjunctive or disjunctive predicates (Fig. 3, Col. 8, lines 11 – 19, Witkowski). Conjunctive or disjunctive predicates/expressions would correspond the type of query elements.

[15] In Fig. 5, item 513 would correspond to a class of the superclass, and item 514 would correspond to a subclass.

[16] Witkowski discloses root node 511 that references the value expression of: **"where (a>3 AND (b<1 OR b=0) AND (gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0))"** (Col 10, lines 33 – 35, Witkowski).

60 – 61 and 2 – 5; respectively, Witkowski) and the second class comprises a combined

value expression (Fig. 5, item 513, Col. 11, lines 7 – 9, Witkowski[17]).

Regarding Claim 20, Witkowski discloses a method, wherein the superclass

represents a search condition (Fig. 5, item 511, Col. 11, lines 11 – 13, Witkowski[18]), the

first class represents an atomic search condition (Fig. 5, item 521, Col. 10 and 11, lines

60 – 61 and 2 – 5; respectively, Witkowski), and the second class represents a

combined search condition (Fig. 5, item 513, Col. 11, lines 7 – 9, Witkowski[19]).

Regarding Claim 21, Witkowski discloses a method, wherein the superclass

represents a group-by query element (Col. 6, lines 38 – 40, Witkowski), the first class

represents a group (Col. 11, lines 16 – 17, Witkowski), and the second class represents

a grouping set (Col.11, lines 34 – 37, Witkowski).

Regarding Claim 22, Witkowski discloses a method, wherein the second class

further comprises a nested query language element (Fig. 5, item 514, 525, and 526,

Col. 10, lines 33 – 35, element 514 comprising: **"(gc=0 AND d>0)"** is nested over

element 513 comprising: **"(gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"**, Witkowski).

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[17] Witkowski (Fig. 5) discloses a parent node (item 513), which corresponds to the second subclass, and nchild nodes (items 524, 514, 515, 525, 526, 527, and 528), which correspond to a combined value expression (Col. 12, lines 21 – 23, **"gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"**, Witkowski).
[18] Witkowski discloses root node 511 that references the search condition: **"where (a>3 AND (b<1 OR b=0) AND (gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0))"** (Col 10, lines 33 – 35, Witkowski).
[19] Witkowski (Fig. 5) discloses a parent node (item 513), which corresponds to the second subclass, and child nodes (items 524, 514, 515, 525, 526, 527, and 528), which correspond to a combined search condition (Col. 12, lines 21 – 23, **"gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"**, Witkowski).

Regarding Claim 23, Witkowski discloses a method, wherein the second class represents an iterative query language element (Col. 11, lines 26 – 27, Witkowski[20]).

Regarding Claim 24, Witkowski discloses a method, further comprising the steps of:

receiving a query statement (Fig. 1, item 110, Col. 6, lines 29 – 32, Witkowski) having an atomic query element (Col. 10, line 34, **a>3**, Witkowski) and a combined query element associated by a combined operator (Col. 10, line 34, **gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)**, Witkowski); and

populating the structure with the received query statement (Fig. 4, items 410, 420, and 430, and 440, Col. 10, lines 57 – 58, Witkowski).

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[20] Witkowski discloses a method for recursively creating parent nodes (item 513 in Fig. 5 is a parent node and also corresponds to the second subclass in the superclass). This method, utilizing recursion, involves repetition, recurrence, and or iteration. In addition, Witkowski also discloses a method for processing conjunctions, which would later be used in the predicate query tree of Fig. 5, including an iterative loop (Col. 8, lines 37 – 38).

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

9.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

10.   Claims 4, 11 – 13, 18, 25 – 27, 32, and 39 – 41 are rejected under 35

U.S.C. 103(a) as being unpatentable over Witkowski et al. (hereinafter Witkowski) (US

Patent No. 6,775,662 B1) in view of Li et al. (hereinafter Li)(US Patent No. 5,428,737).

        Regarding Claim 4, 18, and 32, Witkowski discloses all the limitations as

disclosed above including an article of manufacture, wherein a superclass represents a

table reference (Col. 11, lines 38 – 46, Witkowski) and a first subclass represents an

unjoined expression (Fig. 5, item 521, Col. 10 and 11, lines 60 – 62 and 2 – 4;

respectively, Witkowski) and a second subclass represents a joined query expression

(Fig. 5, item 513, Col. 10, lines 34 – 35, joined by operator "OR", Witkowski). However,

Witkowski is silent with respect to subclasses that represent tables (Claim 4, 18, and

32). On the other hand, Li discloses a system and method including subclasses (Col. 6,

lines 1 – 15, Li), and query statements that represent tables (Fig. 3, Col. 5, lines 41 –

46, Li). It would have been obvious to one of ordinary skills in the art at the time the

invention was made to incorporate the teachings of Li, regarding queries, and

subclasses that represent tables, to the system and method of Witkowski. Skilled

artisan would have been motivated to do so, in order to provide a better and more

organized view of the records and columns containing the data.

11.   Regarding Claims 11 – 12, 25 – 26, and 39 - 40, Witkowski teaches all the

limitations as disclosed above including an interface (Fig. 6, item 618, Col. 13, lines 64

– 67, Witkowski). However, Witkowski is silent with respect to a user - interface (Claim

11, 25, and 39) or an application interface (Claim 12, 26, and 40). On the other hand, Li

discloses a method and system including receiving a query statement from a user-

interface (Col. 4 and 5, lines 33 – 42 and 20 – 25, Li) and application interface (Col. 4

and 5, lines 33 – 42 and 20 – 25, Li). It would have been obvious to one of ordinary skill

in the art at the time the invention was made to incorporate the teachings of Li, including

the user and application interface, to the system and method of Witkowski. Skilled

artisan would have been motivated to do so, in order to allow users to input query

statements, and to provide a more organized, reliable, and robust system for managing

query statements.

12.   Regarding Claim 13, 27, and 41, Witkowski discloses all the limitations as

disclosed above including query elements of a class or subclass instance of at least one

populated model (Fig. 5, Witkowski), and mean for building a query statement from

query elements using the relationships defined by the hierarchical class structure of the

model (Col. 12, lines 8 – 9, Witkowski). However, Witkowski is silent with respect to

means responsive to selection and for retrieving query elements. On the other hand, Li

discloses a system and method for converting queries including responsive means to

selection, and for retrieving only query elements populating the selected class or

subclass instance (Fig. 2 and 8, items 12 and 8, Col. 17, lines 52 – 60, Li). It would have

been obvious to one of ordinary skills in the art at the time the invention was made to

apply the teachings of Li, with respect to means responsive to selection and retrieving

selections. Skilled artisan would have been motivated to do so, to provide an accessible

system for users who want to select and work with specific database structures.

13.   Claims 14, 28, and 42 – 45 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Witkowski et al. (hereinafter Witkowski) (US Patent No. 6,775,662

B1) in view of Carter et al. (Carter hereinafter) (US Patent No. 6,826,557 B1, filed: June

22, 2001).

Regarding Claims 14 and 42, Witkowski discloses an article of manufacture,

further comprising:

program instructions for identifying a first query element type (Fig. 5, item 515,

AND, Witkowski[21]).

Witkowski also discloses a query language and different syntaxes (Fig. 5, item

515, AND, Witkowski [22]). However, Witkowski is silent with respect to query language

dialect. On the other hand, Carter discloses query language dialects (Col. 4, lines 20 –

24, Carter). It would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the Carter's teachings to the system Witkowski.

Skilled artisan would have been motivated to do so, as suggested by Carter (Col. 4,

lines 12 – 25, Carter), to provide the ability of accessing and receiving data from a

variety of sources. In addition, both of the references (Witkowski and Carter) teach

features that are directed to analogous art and they are directed to the same field of

endeavor, such as, databases management systems, and SQL queries. This close

relation between both of the references highly suggests an expectation of success.

The combination of Witkowski in view of Carter further discloses:

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[21] The type AND would correspond to conjunction (conjunctive). Witkowski also discloses an identification
of types procedure (selection process see Fig. 3, Col. 8, lines 11 – 19, Witkowski).
[22] The syntax of the query expression: " c=0 AND d<0 ".

program instructions for identifying at least a second query element type for at

least a second query language dialect (Fig. 5, item 514, AND, Witkowski[23]; and Col. 4,

lines 20 – 24, Carter), the second element type being functionally equivalent to the first

query element type (Fig. 5, items 514 and 515, Col. 11, lines 7 – 9, Witkowski[24]); and

program instructions for creating a generic subclass representative of both the

identified first and at least second element type (Fig. 5, item 513, Witkowski[25]).

Regarding Claim 28, the combination of Witkowski in view of Carter discloses a

method, further comprising the steps of:

i) identifying a first query element type for a first query language dialect (Fig. 5,

item 515, AND, Witkowski[26]; and Col. 4, lines 20 – 24, Carter);

ii) identifying at least a second query element type for at least a second query

language dialect (Fig. 5, item 514, AND, Witkowski[27]; and Col. 4, lines 20 – 24, Carter),

the second element type being functionally equivalent to the first element type (Fig. 5,

items 514 and 515, Col. 11, lines 7 – 9, Witkowski[28]); and

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[23] The type AND would correspond to conjunction (conjunctive). Witkowski also discloses an identification of types procedure (selection process see Fig. 3, Col. 8, lines 11 – 19, Witkowski). In addition, the syntax of the query expression is: " gc=0 AND d>0 ".
[24] Items 514 and 515 (Fig. 5) are functionally equivalent because both of them are conjunctive operators (AND), forming conjunctive expressions, and both of them represent parent nodes.
[25] Item 513 (Fig. 5) would correspond to the generic subclass that represents items 514 and 515 elements.
[26] The type AND would correspond to conjunction (conjunctive). Witkowski also discloses an identification of types procedure (selection process see Fig. 3, Col. 8, lines 11 – 19, Witkowski). The syntax of the query expression is: " c=0 AND d<0 ".
[27] The type AND would correspond to conjunction (conjunctive). Witkowski also discloses an identification of types procedure (selection process see Fig. 3, Col. 8, lines 11 – 19, Witkowski). The syntax of the query expression is: " gc=0 AND d>0 ".
[28] Items 514 and 515 (Fig. 5) are functionally equivalent because both of them are conjunctive operators (AND), forming conjunctive expressions, and both of them represent parent nodes.

iii) creating a subclass representative of both the identified first and at least

second element types (Fig. 5, item 513, Witkowski[29]).

Regarding Claims 43, 44, and 45, the combination of Witkowski in view of Carter

discloses an article of manufacture, wherein at least one of the first subclass and the

second subclass generically represent at least one query element in a plurality of query

language dialects (Fig. 5, items 514 and 515, Col. 11, lines 7 – 9, Witkowski[30]; and Col.

4, lines 20 – 24, Carter).

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[29] Item 513 (Fig. 5) would correspond to the generic subclass that represents items 514 and 515
elements.
[30] Items 514 and 515 (Fig. 5) are functionally equivalent because both of them are conjunctive operators
(AND), forming conjunctive expressions, and both of them represent parent nodes.

Response to Arguments

1.   Applicant argues that the prior art fails to disclose; "superclass and subclasses connected by a relationship indicator".

        Examiner respectfully disagrees. The applied art Witkowski does disclose the superclass and subclasses connected by a relationship indicator (Fig. 5, item 511, AND, Col. 11, lines 7 – 9, Witkowski). Wherein **"(a>3 AND (b<1 OR b=0) AND (gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0))"** (referenced by root node 511, also see - Col 10, lines 33 – 35, Witkowski) corresponds to the superclass claimed; wherein **"a>3"**, and **"gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"** (referenced by root node 521 and 513; repectively; also see - Col 10, lines 33 – 35, Witkowski) correspond to the subclasses claimed; and wherein **"AND"** corresponds to the relationship indicator claimed. In addition, the specific wording "connected by" is not disclosed in the claim language. However, Witkowski does disclose such limitation (see Fig. 5, item 511, AND, Col. 11, lines 7 – 9, Witkowski). Wherein **"AND"** connects the subclass and subclasses claimed.

2.   Applicant argues that the prior art fails to disclose; "superclass under which the subclasses would be organized".

        Examiner respectfully disagrees. Witkowski does disclose a superclass under which the subclasses would be organized (See response to argument 1, and Office

Action above). In addition, the step of generating a predicate tree (Fig. 5, Col. 10, lines 66 – 67, Witkowski) corresponds to the step of organizing as claimed.

3.   Applicant argues that the prior art fails to disclose; "identifying functionality equivalent query elements in at least two different dialects and representing they both using a generic subclass".

        Examiner respectfully disagrees. The combination of Witkowski in view of Carter does disclose the newly added limitation of identifying functionality equivalent query elements in at least two different dialects and representing they both using a generic subclass (Fig. 5, items 513, 514, and 515, Col. 11, lines 7 – 9, Witkowski; and Col. 4, lines 20 – 24, Carter). Wherein Items 514 and 515 (Fig. 5) are functionally equivalent because both of them are conjunctive operators (AND), forming conjunctive expressions; additionally, both of them represent parent nodes. Wherein "**gc=1 OR gc=0 AND d>0 OR c=0 and d<0**" (Fig. 5) corresponds to the generic subclass (See also 103 rejection of claims 14, 28, and 43 – 45 in this Office Action above). Furthermore, the specific wording "generic subclass" is not defined in the specification of the claimed application.

Prior Art Made of Record

1.   Witkowski et al. (US Patent No. 6,775,662 B1) discloses group pruning from cube, rollup, and grouping sets.

2.   Li et al. (US Patent No. 5,428,737) discloses a comprehensive bilateral translation between sql and graphically depicted queries.

3.   Banning et al. (US Patent No. 5,421,008) discloses a system for interactive graphical construction of a data base query and storing of the query object links as an object.

4.   Carter et al. (US Patent No. 6,826,557 B1) discloses a method and apparatus for characterizing and retrieving query results.
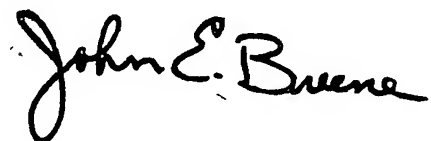
Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Giovanna Colan whose telephone number is (571) 272-2752. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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